

We claim:

1. A method for the diagnosis of Lyme Disease, the method comprising: contacting a sample to be tested with a recombinant FlaA protein, incubating for a sufficient time to allow formation of specific antibody-FlaA complexes, and detecting the antibody-FlaA complexes.
2. The method of claim 1 wherein said recombinant FlaA protein comprises a fusion protein.
3. The method of claim 2 wherein said fusion protein is an approximately 38 kDa T7 gene 10 product.
4. The method of claim 1, wherein the FlaA protein comprises an amino acid sequence as shown in SEQ ID NO:2.
5. The method of claim 4, wherein the FlaA protein comprises amino acids 1-319 of the amino acid sequence of SEQ ID NO:2.
6. The method of claim 1, wherein the FlaA protein comprises an amino acid sequence encoded by the nucleic acid sequence as shown in SEQ ID NO:3.
7. The method of claim 1, wherein the FlaA protein lacks a signal peptide.
8. The method of claim 1, wherein the FlaA protein is immobilized on a solid support.
9. The method of claim 1, wherein the FlaA protein further comprises a detectable label.
10. The method of claim 10, wherein the label is selected from the group consisting of a chemiluminescent label, a radioactive label, and a colorimetric label.
11. The method of claim 1, wherein the antibody-FlaA complex is detected by specific protein binding to the antibody specific for FlaA.
12. The method of claim 1, wherein the antibody is of the IgM subclass.
13. The method of claim 13, wherein the fusion partner of the FlaA fusion protein does not interfere with the antigenic epitopes of the FlaA protein.
14. The method of claim 1, wherein the steps are performed manually.
15. The method of claim 1, wherein the steps are automated.
16. A method for producing FlaA protein, the method comprising: providing freshly transformed host cells; constructing a DNA expression vector containing an expressible

FlaA encoding DNA sequence; transforming a suitable host cell with said expression vector; plating out said transformed host cells; preparing large scale primary cell cultures from transformed host cells taken from a fresh transformant colony; and inducing FlaA protein expression from host cells in culture to produce a recombinant FlaA protein.

17. The method of claim 17, wherein the recombinant FlaA protein is encoded by a nucleic acid sequence as shown in SEQ ID NO:1.
18. The method of claim 17, wherein the FlaA protein comprises an amino acid sequence as shown in SEQ ID NO:2.
19. The method of claim 19, wherein the FlaA protein comprises amino acids 1-319 of the amino acid sequence of SEQ ID NO:2.
20. The method of claim 17, wherein the FlaA protein comprises an amino acid sequence encoded by the nucleic acid sequence as shown in SEQ ID NO:3.
21. The method of claim 17, wherein the FlaA protein is a fusion protein.
22. The method of claim 22, wherein the fusion protein comprises an approximately 38 kDa T7 gene 10 product.
23. The method of claim 17 wherein said transformed host cell is an *E. coli* cell.